

This listing of claims replaces prior versions and listings of claims in the application.

**Listing of Claims:**

1. **(previously presented)** A method of processing user criteria to retrieve a portion of data and display it to the user, the method comprising the steps of:

initiating a network communication session between a client computer and a server computer;

executing a host process on the server computer that receives user criteria that specify a subset of data elements;

on the server computer, identifying a subset of data from a database that meets the user criteria;

on the server computer, constructing one or more data objects that represent the data subset, and communicating the data objects to the client computer;

executing a display process running as an applet in a browser on the client computer for displaying the data subset in a display defined by a two-dimensional field array of information, wherein the field array of the display is divided into a plurality of two-dimensional bounded field areas, each of which has a display area that is indicative of a first data criterion of the data subset, and wherein the area of each bounded field area is further divided into subfield areas, each of which has an area that is indicative of a second data criterion of the data subset; and

displaying a subfield detail window adjacent to or on top of one of the subfield areas in response to moving a display cursor over a boundary of the bounded subfield area to show data relating to the bounded subfield area, and displaying a menu window adjacent to the bounded subfield area in response to a mouse click on the bounded subfield area such that the menu window shows information relating to the bounded subfield area data subset.

2. **(original)** A method as defined in claim 1, wherein the menu array window specifies information relating to the bounded subfield area.

3. **(original)** A method as defined in claim 1, wherein the subfield detail window remains in display as long as a display cursor is located over the subfield area.

4. **(original)** A method as defined in claim 1, wherein the menu array window includes one or more hyperlinks for an offering represented by the bounded sublevel area.

5. **(previously presented)** A method as defined in claim 1, wherein each subfield area includes an attribute that is indicative of a third data criterion of the data subset.

6. **(previously presented)** A method as defined in claim 5, wherein the attribute of the subfield display areas is screen color, such that screen color indicates the magnitude of the third data criterion.

7. **(previously presented)** A method of presenting information regarding plural productson a computer display screen for perusal and selection by a user, the method comprising the steps of:

initiating a network communication session between a client computer and a server computer;

executing a host process on the server computer that receives user criteria that specify a subset of the data elements available to the server computer with respect to multiple data criteria;

on the server computer, constructing one or more data objects that represent the data subset, and communicating the data objects to the client computer;

executing a display process running as an applet in a browser on the client computer for displaying a product review page on the display screen, the product review page comprising one or more two-dimensional, bounded field areas, each bounded field area corresponding to a particular product category, wherein one or more of the bounded field areas is divided into plural bounded subfield areas, each of the bounded subfield areas corresponding to and representing a product, and wherein each bounded subfield area has a first attribute that is indicative of a first characteristic of the corresponding product;

displaying a menu box that provides the user with the ability to insert any product corresponding to a subfield area into an electronic shopping cart; and

providing the user with the ability to perform a single action to initiate a purchase transaction of all of the items in the shopping cart..

8. **(original)** A method as defined in claim 7, wherein all of the bounded field areas and subfield areas of the product review page are simultaneously contained within a single viewable region of the computer display screen.

9. **(original)** A method as defined in claim 7, wherein the first attribute of the bounded subfield area comprises a two-dimensional size of the bounded subfield area.

10. **(original)** A method as defined in claim 7, wherein the first attribute of the bounded subfield area comprises a screen color of the bounded subfield area.

11. **(original)** A method as defined in claim 7, wherein the bounded subfield area has a second attribute that is indicative of a second characteristic of the corresponding product.

12. **(original)** A method as defined in claim 11, wherein the first attribute of the bounded subfield area comprises the size of the bounded subfield area and the second attribute of the bounded subfield area comprises the color of the bounded subfield area.

13. **(original)** A method as defined in claim 7, wherein subfield areas that represent a particular product having a first characteristic are grouped together with subfield areas that represent products that have a characteristic similar to the first characteristic.

14. **(original)** A method as defined in claim 7, wherein the first visible attribute of the subfield areas is indicative of the price of the corresponding product.

15. **(original)** A method as defined in claim 7, additionally comprising;  
displaying a field detail window adjacent to one of the bounded subfield areas in response to moving a display cursor over a boundary of the bounded subfield areas to show data relating to the product corresponding to the bounded subfield area.

16. **(previously presented)** A method as defined in claim 7, additionally comprising the steps of :

displaying a menu box adjacent to or on top of one of the bounded subfield areas corresponding to and representing a product in response to a mouse click on the bounded subfield area, wherein the menu box includes menu items that may be selected for accessing information related to one or more of the products.

17. **(original)** A method as defined in claim 7, wherein each subfield area represents a coffee product that is available for purchase and wherein subfield areas that represent coffee products of a common type are grouped within a common field area.

18. **(original)** A method as defined in claim 17, wherein the first attribute of each subfield area is the two-dimensional screen size of the subfield area and wherein the two dimensional size of each subfield area is indicative of a purchase price of the product represented by the subfield area.

19. **(previously presented)** A device for displaying information on a computer display screen for perusal and selection by a user, the information being related to plural data elements, each data element belonging to a data category and being defined by one or more dimensions of a given magnitude, the device comprising:

means for communicating data criteria from a device over a network to a server computer, wherein the server computer is operative to construct data objects representing a subset of data elements available to the server computer according to the data criteria, and return the data objects to the device;

one or more bounded field areas on the display screen, each bounded field area corresponding to a particular data category, wherein each bounded field area is divided into one

or more bounded subfield areas, each bounded subfield area corresponding to and representing a particular data element, wherein each of the bounded subfield areas has a first attribute that is indicative of a first dimension of the corresponding data element, and wherein all of the bounded field areas and subfield areas are simultaneously viewable within a single viewable region of the computer display screen;

a field detail window on the computer display screen located adjacent to or on top of one of the bounded subfield areas in response to a display cursor being located over a boundary of the bounded subfield area, the field detail window showing the magnitude of one or more dimensions of the data element corresponding to the bounded subfield area;

a menu array window on the computer display screen adjacent one of the bounded sublevel areas, the menu array window appearing in response to a mouse click on a bounded subfield area, the menu array window including an option to insert the data element corresponding to the bounded subfield area into a shopping cart; and

a button item on the computer display screen by which the data elements in the shopping cart may be accepted by the user.

20. **(original)** The device as defined in claim 19, wherein each of the bounded subfield areas has a second attribute that is indicative of a second dimension of the corresponding data element.

21. **(original)** The device as defined in claim 19, wherein the first attribute of each of the bounded subfield area is a two-dimensional size of the bounded subfield area.

22. **(original)** The device as defined in claim 20, wherein the second attribute of each of the bounded subfield area is a screen color of the bounded subfield area.

23. **(original)** The device as defined in claim 19, wherein the data elements are descriptive of products that are available for purchase.

24. **(previously presented)** The device as defined in claim 23, wherein the data elements are stored in a data store that is remote from the computer device, and wherein the computer device is a hand-held computer device

25. **(original)** The device as defined in claim 19, wherein each data element corresponds to a product that is available for purchase and wherein the dimensions of a data element include the price of the corresponding product.

26. **(original)** The device as defined in claim 19, wherein the menu array window provides the option to accept criteria by which the user can cause the computer to revise the attributes of the bounded subfield areas to be indicative of a different set of dimensions of the subfields within a particular data category.

27. **(original)** The device as defined in claim 19, wherein the menu array window provides the option to accept criteria by which the user can cause the computer to display only data elements having a dimension within a given value range.

28. **(original)** The device as defined in claim 19, wherein the data elements describe products that are available for purchase and wherein the button item allows the user to initiate a purchase transaction with respect to any data elements in the shopping cart.

29. **(previously presented)** A computer device having an internal memory containing computer readable code comprised of a set of instructions that will cause the computer device to execute the following functions:

accept user criteria for obtaining, over a network from a server computer, a subset of data related to products that are available for purchase;

retrieve a data subset from the server computer that meets the user criteria, the data subset comprised of one or more data elements, each data element being related to one or more products, and;

generate a tree map display that is representative of the data subset through a display process, wherein the tree map display comprises:

plural bounded field areas, each bounded field area corresponding to a product category, wherein one or more of the bounded field areas is divided into plural bounded subfield areas, each of the bounded subfield areas corresponding to and representing a product, and wherein each bounded subfield area has a first visible attribute that is indicative of a first characteristic of the corresponding product, wherein the plural bounded field areas and the bounded subfield areas are all contained within a single viewable region of a computer display screen;

a menu item that provides the user with the ability to insert any product corresponding to a subfield area into an electronic shopping cart;

a shopping cart item that provides a tally of any products that have been inserted into the shopping cart; and



a selectable item that initiates a purchase transaction of all of the items in the shopping cart.

30. **(original)** The computer device of claim 29, wherein the tree map display additionally comprises a field detail window on the computer display screen located adjacent to one of the bounded subfield areas in response to a display cursor being located over a boundary of the bounded subfield area, the field detail window including information related to the product that corresponds the subfield area upon which the display cursor is located.

31. **(original)** The computer device of claim 29, wherein the first visible attribute of each of the bounded subfield areas is the screen size of the bounded subfield area.

32. **(original)** The computer device of claim 29, wherein each bounded subfield area has a second visible attribute that is indicative of a second characteristic of the corresponding product.

33. **(original)** The computer device of claim 32, wherein the second visible attribute comprises the screen color of the subfield area.

34. **(previously presented)** A method of processing user criteria to retrieve a portion of data and display it to the user, the method comprising the steps of:

executing a process running as an applet in a browser on a client machine for receiving user criteria that specify a subset of the data with respect to multiple data criteria;

initiating a network communication session between the client machine and a server computer;

on the server computer, identifying a subset of data from a database that meets the user criteria;

retrieving the data subset from the data;

executing a display process for displaying the data subset in a display defined by a two-dimensional field array of information, wherein the field array of the display is divided into a plurality of two-dimensional bounded field areas, each of which has a display area that is indicative of a first data criterion of the data subset, and wherein the area of each bounded field area is further divided into two-dimensional subfield areas, each of which has an area that is indicative of a second data criterion of the data subset; and

displaying a subfield detail window adjacent to one of the subfield areas in response to moving a display cursor over a boundary of the bounded subfield area to show data relating to the bounded subfield area, and displaying a menu window adjacent to the bounded subfield area in response to a mouse click on the bounded subfield area such that the menu window shows information relating to the bounded subfield area data subset.

35. **(previously presented)** A method as defined in Claim 34, wherein changing one of the displayed subfield areas comprises changing a data grouping of the data elements in accordance with the changed second data criterion.

36. **(previously presented)** A method as defined in Claim 35, wherein the received user criteria changes the display dimensions of the changed displayed subfield area in accordance with the changed second data criterion.

37. **(previously presented)** A method as defined in Claim 35, wherein the received user criteria changes the display color of the changed displayed subfield area in accordance with the changed second data criterion.

38. **(previously presented)** A method as defined in Claim 35, wherein the received user criteria applies a filter that changes the data elements that comprise the displayed subfield area according to the changed second data criterion.

39. **(previously presented)** A computer device that displays information related to plural data elements, the device comprising:

a display screen on which the device displays one or more two-dimensional bounded field areas, each bounded field area corresponding to a display area that is indicative of a first data criterion of a subset of the data elements, and each bounded field area is divided into one or more bounded subfield areas, the area of each bounded subfield area corresponding to and indicative of a second data criterion of the data subset, wherein the second data criterion is indicative of a data grouping of the data subset of the data elements; and

host process means for receiving the data criteria;

means for initiating a network communication session between a client computer and a server computer;

means for retrieving from the server computer one or more data objects that represent the data subset corresponding to the data criteria; and

input means for receiving user criteria from the user to specify changed second data criterion relating to an attribute with which the bounded subfield area is associated.

40. **(previously presented)** A computer device as defined in Claim 39, wherein the input means comprises a user input to which the device responds by changing the data grouping of the data subset in accordance with the changed second data criterion.

41. **(previously presented)** A computer device as defined in Claim 40, wherein the received user criteria changes the display dimensions of the changed displayed subfield area in accordance with the changed second data criterion.

42. **(previously presented)** A computer device as defined in Claim 40, wherein the received user criteria changes the display color of the changed displayed subfield area in accordance with the changed second data criterion.

43. **(previously presented)** A computer device as defined in Claim 40, wherein the received user criteria applies a filter that changes the data elements that comprise the displayed subfield area according to the changed second data criterion.

44. **(previously presented)** A computer device as defined in Claim 39, further including:

display means for displaying descriptive information regarding a field area such that the descriptive information is displayed in an area proximal to the field area.

45. **(previously presented)** A method as defined in claim 1, further comprising the steps of:

displaying a descriptive information window in an area proximal to a field area such that the descriptive information window includes descriptive information regarding the field area.

46. **(previously presented)** A method as defined in claim 7, further comprising the steps of:

displaying a descriptive information window in an area proximal to a field area such that the descriptive information window includes descriptive information regarding the field area.

47. **(previously presented)** A device as defined in claim 19, further including a descriptive information window displayed in an area proximal to a field area such that the descriptive information window includes descriptive information regarding the field area.

48. **(previously presented)** The computer device of claim 29, wherein the tree map display includes a descriptive information window that is displayed in an area proximal to a field area such that the descriptive information window includes descriptive information regarding the field area.

49. **(previously presented)** A method of processing user data search criteria to retrieve data from a database for computer display, the method comprising the steps of:

executing a process running as an applet in a browser on a client machine for receiving data search criteria entered by a user into a search criteria window of the computer display;

receiving a user input to begin retrieval, from a server computer over a network connection, of data elements that match the data search criteria; and

executing a display process for providing a display of the retrieved data elements in a computer display window comprising a tree map display; and

wherein the tree map display comprises a display area that includes one or more two-dimensional bounded field areas, each bounded field area corresponding to a display area that is indicative of a first data criterion of a subset of the data elements, and each bounded field area is divided into one or more bounded subfield areas, the area of each bounded subfield area corresponding to and indicative of a second data criterion of the data subset.

50. **(canceled)**

51. **(previously presented)** A method as defined in claim 49, further comprising the steps of:

receiving user criteria from the user to specify changed second data criterion relating to the bounded subfield area and changing one of the displayed subfield areas according to the received user criteria.

52. **(previously presented)** A method as defined in claim 51, wherein the received user criteria comprises a user input that initiates changing the data grouping of the data subset in accordance with the changed second data criterion.

53. **(previously presented)** A method as defined in claim 51, wherein the received user criteria changes the display dimensions of the changed displayed subfield area in accordance with the changed second data criterion.

54. **(previously presented)** A method as defined in claim 51, wherein the received user criteria changes the display color of the changed displayed subfield area in accordance with the changed second data criterion.

55. **(previously presented)** A method as defined in claim 51, wherein the received user criteria applies a filter that changes the data elements that comprise the displayed subfield area according to the changed second data criterion.

56. **(previously presented)** A method as defined in claim 51, further comprising the steps of:

displaying a descriptive information window in an area proximal to a field area such that the descriptive information window includes descriptive information regarding the field area.

57-58. **(canceled)**

59. **(previously presented)** A method as defined in Claim 1, additionally comprising the step of:

providing an aural attribute associated with one or more subfield areas for indicating, via sound, a dimension of the data element for the subfield areas.

60. **(currently amended)** The method of claim 1, additionally comprising the steps of:

displaying a menu item by which the factors which govern the bounded field areas are changed, such that the subfield areas are regrouped without adding or removing subfield areas according to user-specified criteria;

~~displaying a menu item by which the criteria used for displaying data elements are automatically widened and narrowed;~~

displaying a highlight box by which ~~one or more~~ than one subfield areas meeting one or more user-specified criteria are highlighted with one or more symbols associated with the criteria; and

providing an aural attribute associated with one or more subfield areas for indicating, via sound, a dimension of the data element for the subfield areas.

61. **(currently amended)** The method of claim 7, additionally comprising the steps of:



displaying a highlight box by which ~~one or~~ more than one subfield areas meeting one or more user-specified criteria are highlighted with one or more symbols associated with the criteria;

displaying a menu item by which the factors which govern the bounded field areas are changed, such that the subfield areas are regrouped without adding or removing subfield areas according to user-specified criteria; and

~~displaying a menu item by which the criteria used for displaying data elements are automatically widened and narrowed; and~~

providing an aural attribute associated with one or more subfield areas for indicating, via sound, a dimension of the data element for the subfield areas.

62. **(currently amended)** The method of claim 19, additionally comprising the steps of:

displaying a highlight box by which ~~one or~~ more than one subfield areas meeting one or more user-specified criteria are highlighted with one or more symbols associated with the criteria;

displaying a menu item by which the factors which govern the bounded field areas are changed, such that the subfield areas are regrouped without adding or removing subfield areas according to user-specified criteria; and

~~displaying a menu item by which the criteria used for displaying data elements are automatically widened and narrowed; and~~

providing an aural attribute associated with one or more subfield areas for indicating, via sound, a dimension of the data element for the subfield areas.

63. **(currently amended)** The device of claim 29, additionally comprising:

a highlight box by which ~~one or more~~ than one subfield areas meeting one or more user-specified criteria are highlighted with one or more symbols associated with the criteria;

a menu item by which the factors which govern the bounded field areas are changed, such that the subfield areas are regrouped without adding or removing subfield areas according to user-specified criteria; and

~~a menu item by which the criteria used for displaying data elements are automatically widened and narrowed; and~~

an aural attribute associated with one or more subfield areas for indicating, via sound, a dimension of the data element for the subfield areas.

64. **(currently amended)** The method of claim 34, additionally comprising the steps of:

displaying a highlight box by which ~~one or more~~ than one subfield areas meeting one or more user-specified criteria are highlighted with one or more symbols associated with the criteria;

displaying a menu item by which the factors which govern the bounded field areas are changed, such that the subfield areas are regrouped without adding or removing subfield areas according to user-specified criteria; and

~~displaying a menu item by which the criteria used for displaying data elements are automatically widened and narrowed; and~~

providing an aural attribute associated with one or more subfield areas for indicating, via sound, a dimension of the data element for the subfield areas.

65. **(currently amended)** The device of claim 39, additionally comprising:

a highlight box by which ~~one or more~~ than one subfield areas meeting one or more user-specified criteria are highlighted with one or more symbols associated with the criteria;

a menu item by which the factors which govern the bounded field areas are changed, such that the subfield areas are regrouped without adding or removing subfield areas according to user-specified criteria; and

~~a menu item by which the criteria used for displaying data elements are automatically widened and narrowed; and~~

an aural attribute associated with one or more subfield areas for indicating, via sound, a dimension of the data element for the subfield areas.

66. **(currently amended)** The method of claim 49, additionally comprising the steps of:

displaying a highlight box by which ~~one or more~~ than one subfield areas meeting one or more user-specified criteria are highlighted with one or more symbols associated with the criteria;

displaying a menu item by which the factors which govern the bounded field areas are changed, such that the subfield areas are regrouped without adding or removing subfield areas according to user-specified criteria; and

~~displaying a menu item by which the criteria used for displaying data elements are automatically widened and narrowed; and~~

providing an aural attribute associated with one or more subfield areas for indicating, via sound, a dimension of the data element for the subfield areas.

67. **(previously presented)** A method of processing user criteria to retrieve a portion of data and display it to the user, the method comprising the steps of:

issuing a request for an application program, over a network communication session, from a client computer to a server computer;

returning a datafile containing the application program from the server computer to the client computer;

initiating execution of the application program on the client computer;

communicating data criteria, specified by the user, from the application program to the server computer;

on the server computer, constructing one or more data objects that represent the data subset specified by the data criteria, and communicating the objects to the application program;

on the client computer via the application program, displaying the data subset in a display defined by a two-dimensional field array of information, wherein the field array of the display is divided into a plurality of two-dimensional bounded field areas, one or more of which has a display area that is indicative of a grouping criterion of the data subset, wherein the grouping criterion is user-selectable, and wherein the area of one or more bounded field areas is further divided into one or more subfield areas, one or more of which has an area that is

indicative of a second data criterion of the data subset, wherein the second data criterion is user-selectable.

68. **(previously presented)** The method of claim 67, further comprising the steps of:  
displaying a subfield detail window adjacent to or on top of one of the subfield areas in response to moving a display cursor over a boundary of the bounded subfield area to show data relating to the bounded subfield area;  
removing the subfield detail window when the display cursor has been moved outside the boundaries of the bounded subfield area; and  
removing the subfield detail window when an escape key is pressed.

69. **(currently amended)** The method of claim 67, further comprising the step of:  
providing a highlight box by which ~~one or more~~ than one subfield areas meeting one or more user-specified criteria are highlighted with one or more symbols associated with the criteria.

70. **(currently amended)** The method of claim 69, further comprising the step of:  
providing a menu such that the grouping criterion is user-changeable, such that one or more subfield areas are grouped with one or more other subfield areas according to the changed grouping criterion without adding or removing subfield areas.

71. **(canceled)**

72. **(previously presented)** The method of claim 67, wherein the application program is a server applet.

73. **(previously presented)** The method of claim 72, wherein the one or more subfield areas are displayed with a color value via an algorithm comprising the steps of:

computing first color values for the one or more subfield areas, wherein the first color values are based on values of a dimension for associated data elements of the one or more subfield areas;

computing, for one or more of the first color values, second color values as logarithms of the first color values;

calculating mean and standard deviation of the second color values;

setting an upper and a lower limit for a set of final color values for the one or more subfield areas;

computing final color values by normalizing the second color values to numbers between zero and one, wherein zero corresponds to the lower limit and one corresponds to the upper limit;

assigning color values to the one or more subfield areas based on the final color values, and

displaying the assigned color values.

74. **(previously presented)** The method of claim 73, wherein the server applet runs in a virtual machine in a browser, wherein a reference tag to the server applet is embedded in a web page containing HTML code, such that the HTML code identifies the server applet to the

browser and provides one or more parameters necessary for the browser to receive and launch the server applet.

75. **(previously presented)** The method of claim 74, wherein the virtual machine implements a browser-compatible language.

76. **(previously presented)** The method of claim 75, wherein the client computer is a hand-held computer.

77. **(previously presented)** A method of displaying a tree map, comprising the steps of:

computing first color values for one or more subfield areas of a tree map, wherein the first color values are based on values of a dimension for associated data elements of the subfield areas;

computing, for one or more of the first color values, second color values as logarithms of the first color values;

calculating mean and standard deviation of the second color values;

setting an upper and a lower limit for a set of final color values for the one or more subfield areas;

computing the final color values by normalizing the second color values to numbers between zero and one, wherein zero corresponds to the lower limit and one corresponds to the upper limit;

assigning color values to the one or more subfield areas based on the final color values;  
and  
displaying the assigned color values.

78. **(currently amended)** The method of claim 77, further comprising the steps of:  
displaying a highlight box by which ~~one or more~~ than one subfield areas meeting one or more user-specified criteria are highlighted with one or more symbols associated with the criteria;

displaying a menu item by which the factors which govern the bounded field areas are changed, such that the subfield areas are regrouped without adding or removing subfield areas according to user-specified criteria; and

~~displaying a menu item by which the criteria used for displaying data elements are automatically widened and narrowed; and~~

providing an aural attribute associated with one or more subfield areas for indicating, via sound, a dimension of the data element for the subfield areas.

79. **(previously presented)** The method of claim 78, wherein the upper limit is about two standard deviations above the mean, and the lower limit is about two standard deviations below the mean.